



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,108	11/28/2001	Johan Loccufier	27500-11	2519

7590 02/20/2003
Joseph T. Guy Ph.D.
Nexsen Pruet Jacobs & Pollard LLP
201 W. McBee Avenue
Greenville, SC 29603

EXAMINER

FLETCHER III, WILLIAM P

ART UNIT PAPER NUMBER

1762

DATE MAILED: 02/20/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/996,108

Applicant(s)

LOCCUFIER ET AL.

Examiner

William P. Fletcher III

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/11/02
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☒ Claim(s) 1 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Detailed Office Action

I. Receipt of Response

5

The examiner acknowledges receipt of applicant's response, filed 11 December 2002. made of record in this file as Paper No. 5.

II. Response to Amendment

10

Applicant's amendment in Paper No. 5 amends the title, abstract, specification, and claims, and adds new claim 11. Applicant's substitute specification will be entered.

III. Response to Arguments

15

The examiner fully considered applicant's arguments in Paper No. 5. They are not persuasive.

Applicant traversed the rejections of claims 1 - 6 under 35 U.S.C. § 102(e), stating that the amendment in Paper No. 5 renders the rejections moot: "Kato teaches polymeric materials and fails to teach the materials of claims 1 - 6."

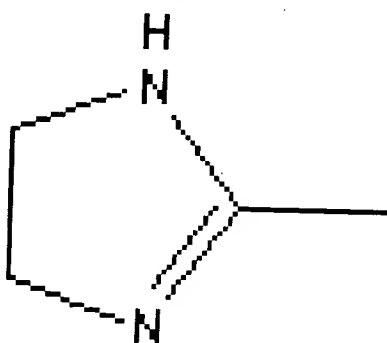
20

Kato teaches that the oleophilizing compound has, in its chemical structure, the amidine group illustrated at c. 13, l. 15. This amidine group serves to link the two components (I and II)

of the macromonomer (MA) together. Components I and II, illustrated at c. 3, l. 30 and c. 4, l. 25, respectively, correspond to applicant's groups R3 and R4 and read on, at least, a saturated or unsaturated aliphatic group. Kato does not indicate that the amidine group is at all changed by the polymerization process. Consequently, it is the examiner's position, absent a clear and convincing showing to the contrary, that the amidine group is present in the final, polymerized oleophilizing compound, and that R3 and R4 read on, at least, a saturated or unsaturated aliphatic group.

Applicant traversed the rejection of claims 1 - 6 under 35 U.S.C. § 103(a), arguing: "Even if the viscosity-modifying compound of Breton et al. is within the claimed structures of the present invention this would not be considered to act as an oleophilizing agent."

Breton teaches, as an example of the viscosity-modifying compound, 2-methyl-2-imidazoline [c. 9, l. 5]. It is the examiner's position that this compound satisfies the formula of claim 1 with R1 and R2 completing the 5-member ring, R3 = H, and R4 = CH₃:



Further, as noted in Paper No. 2, as the viscosity-modifying compound is an integral part of the ink composition, it serves to oleophilize the surface of the lithographic receiver.

Applicant further argued: "One of ordinary skill in the art would have no basis from Breton et al., with or without Zerillo, to expect an ink suitable for printing on a media would have special benefits when used in the preparation of a lithographic plate."

Zerillo places no particular limitations on the ink used to prepare the lithographic plate.

5 Zerillo does suggest a solid ink that is melted and applied as a liquid [c. 3, ll. 20 - 26]. Based on this suggestion, one of ordinary skill in the art would have looked to the art of phase-change inks for guidance in selecting an ink.

Applicant further argued: "One skilled in the art would expect a viscosity-modifying compound to be chemically inert yet rheologically active. This is opposite from the teachings
10 exhibited and claimed in the present invention." Similarly, applicant argued: "...one of ordinary skill in the art would not expect the viscosity-modifying compounds of Breton et al. to be chemically active with a printing plate."

These arguments are not commensurate in scope with the claim. Applicant claims "an oleophilizing compound...capable of reacting with said surface of said lithographic plate."
15 Applicant has not disclosed the exact nature of the reaction: whether it is "chemically active" or otherwise. As noted in Paper No. 2, insofar as the ink remains on the surface of the lithographic receiver and forms an ink-receptive image, it is the examiner's position that the ink as a whole, as well as any components and/or functional groups it may contain, is/are capable of reacting with the surface of the lithographic receiver.

20 Applicant traversed the rejections of claims 7 - 10 under 35 U.S.C. § 103(a), stating that the additional references cited do not mitigate the asserted deficiencies in the combination of Zerillo in view of Breton et al.

In light of the above, applicant's arguments presented in Paper No. 5 are not persuasive.

IV. Form & Content of Application

5 Title

The objection under this heading in Paper No. 2 is withdrawn.

Abstract

The objection under this heading in Paper No. 2 is withdrawn.

10

Specification

Applicant's substitute specification will be entered. The objections under this heading in Paper No. 2 are withdrawn.

15 Claims

Claim 1 recites "...functional amidine group..." at p. 19, l. 7. This phrase is adequately defined in the specification (see p. 8, for example) but applicant's intended meaning would be more clearly conveyed by the phrase "amidine functional group." The examiner interprets the phrase as such in examining the claims on their merits. See also p. 7, ll. 1 - 6 in Paper No. 2.

20

V. Rejections Under 35 U.S.C. § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. **Claims 1 – 6** are rejected under 35 U.S.C. § 102(e) as being anticipated by Kato {US 6,098,545; filed 17 December 1998; published 08 August 2000}.

With respect to claim 1, Kato teaches a method for the preparation of a lithographic printing plate [claim 1, c. 51, l. 31]. The method comprises dispensing information-wise, by means of ink jet printing, droplets of a fluid onto the surface of a lithographic receiver [c. 31, ll. 1 – 13; claim 1, c. 51, ll. 21 – 24 and ll. 30 – 32]. The fluid contains an oleophilizing compound having in its chemical structure an amidine functional group capable of reacting with the surface of the lithographic receiver [c. 13, l. 15 and c. 15, l. 50]. This amidine group serves to link the two components (I and II) of the macromonomer (MA) together. Components I and II, illustrated at c. 3, l. 30 and c. 4, l. 25, respectively, correspond to applicant's groups R3 and R4 and read on, at least, a saturated or unsaturated aliphatic group. Kato does not indicate that the amidine group is at all changed by the polymerization process. Consequently, it is the examiner's position, absent a clear and convincing showing to the contrary, that the amidine group is present in the final, polymerized oleophilizing compound, and that R3 and R4 read on, at least, a saturated or unsaturated aliphatic group.

Note: A "fluid" is defined as "a substance (as a liquid or gas) tending to flow or conform to the outline of its container" [*Merriam-Webster's Collegiate Dictionary*, 10th Ed., p. 449]. Based on this definition, it is the examiner's position that the liquid dispersion of resin particles satisfies applicant's limitation requiring a fluid.

5 Note: The examiner has interpreted "oleophilizing" as "rendering oleophilic." The examiner has interpreted "oleophilic" according to its common art-recognized and art-specific definition: "receptive to printing inks" [see, for example, c. 1, ll. 10 – 20 of US 3,131,630]. Therefore, the examiner has interpreted "oleophilizing" as "rendering receptive to printing inks." Since the resin deposited by the ink jet is ink receptive in a lithographic printing process, it is the
10 examiner's position that the resin is oleophilizing [see, for example, c. 31, ll. 47 – 54].

Note: Insofar as the oleophilizing compound remains on the surface of the lithographic receiver and forms an ink-receptive image, it is the examiner's position that the oleophilizing compound as a whole, as well as any functional groups it may contain, is/are capable of reacting with the surface of the lithographic receiver.

15

With respect to claims 2 – 3, Kato teaches that the amidine group is a heterocyclic amidine group, specifically, an imidazoline group [c. 13, l. 15 and c. 15, l. 50].

With respect to claim 4, Kato teaches that the oleophilizing compound is present in said
20 fluid in an amount ranging from 0.1% to 20% by weight [c. 17, l. 41].

With respect to claim 5, Kato teaches that the fluid further contains a colorant [c. 23, ll. 25 – 30].

With respect to claim 6, Kato teaches that the surface of the lithographic receiver is
5 metallic, specifically aluminum (Al) [c. 27, ll. 38 – 45].

VI. Rejections under 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all
10 obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as
set forth in section 102 of this title, if the differences between the subject matter sought to be
patented and the prior art are such that the subject matter as a whole would have been obvious at
15 the time the invention was made to a person having ordinary skill in the art to which said subject
matter pertains. Patentability shall not be negated by the manner in which the invention was
made.

2. **Claims 1 – 6** are rejected under 35 U.S.C. § 103(a) as being unpatentable over Zerillo
{US 4,833,486} in view of Breton et al. {US 6,106,599}.

20

With respect to claims 1 – 3, Zerillo teaches a process for the preparation of a
lithographic printing plate [c. 1, l. 60 – c. 2, l. 44]. The method comprises dispensing
information-wise, by means of ink jet printing, droplets of a fluid onto the surface of a
lithographic receiver [c. 1, l. 60 – c. 2, l. 44]. Specifically, the process of Zerillo comprises
25 melting a solid ink that is applied in liquid form by the ink jet and solidifies essentially upon
contact with the receiver [c. 3, ll. 20 – 26].

Note: The examiner has interpreted the term "oleophilizing" as above. More specifically, Zerillo teaches: "The hydrophobic image repels the water but attracts the ink, and thus ink is applied to the image. The inked image is then used to make lithographic copies" [c. 1. ll. 18 – 21]. Therefore, it is the examiner's position that the ink deposited by the ink jet in the
5 process of Zerillo is an oleophilizing compound.

Note: The ink of Zerillo may be a solid that is melted and applied as a liquid [c. 3. ll. 20 – 26]. The examiner has interpreted the term "fluid" as above. Again, since the ink is liquid — at least during its application — it is the examiner's position that the ink is a fluid.

Zerillo does not teach that the fluid contains an oleophilizing compound having in its
10 chemical structure an amidine functional group capable of reacting with the surface of the lithographic plate.

Breton et al. teach an acoustic ink jet printing method and inks for use therein [c. 1. ll. 20 – 26]. In this process a phase-change ink (i.e. an ink that changes phase from solid to liquid and is applied as a liquid) is jetted from an ink jet with the aid of acoustic energy [c. 5. ll. 24 – 67].
15 Breton et al. teach that an acoustic ink jet method is superior to conventional ink jet processes because it provides improved resolution and exhibits greater reliability [c. 14, l. 14 – c. 15, l. 39]. Breton et al. also disclose that the inks especially suited for use with this acoustic ink jet method comprise a viscosity-modifying compound which may be 2-methyl-2-imidazoline [c. 9, l. 5]. It is the examiner's position that this compound reads on that recited in claim 1 (see above).

20 It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the process of Zerillo so as to deposit the fluid by the acoustic ink jet method disclosed by Breton et al. with the desire and expectation of improved resolution and

greater reliability. Further, it would have been obvious to utilize, as the fluid, an ink with an imidazoline viscosity-modifying compound, based on the explicit suggestion to do so by Breton et al.

Note: Since the viscosity-modifying compound forms an integral part of the ink composition and remains on the receiving layer to form the ink-receptive image, it is the examiner's position that the viscosity-modifying compound is an integral component of the oleophilizing compound — thereby serving to oleophilize the surface of the lithographic receiver — and, since it has an amidine functional group in its chemical structure, meets applicant's claimed limitation of an oleophilizing compound having in its chemical structure an amidine functional group.

Note: Insofar as the ink remains on the surface of the lithographic receiver and forms an ink-receptive image, it is the examiner's position that the ink as a whole, as well as any components and/or functional groups it may contain, is/are capable of reacting with the surface of the lithographic receiver.

15

With respect to claim 4, Breton et al. teach that the imidazoline viscosity-modifying compound is present in the fluid in an amount ranging from about 1% to 59% by weight [c. 11. 1. 34]. This range overlaps applicant's claimed range of 0.01% to 6% by weight. In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists [see MPEP § 2144.05].

20

With respect to claim 5, both Zerillo et al. and Breton et al. teach that the fluid further contains a colorant [Zerillo c. 4, ll. 22 – 46; Breton et al. c. 7, ll. 52 – 53].

With respect to claim 6, Zerillo teaches that the surface of the lithographic receiver is
5 metallic; in a specific example, aluminum (Al) [c. 3, ll. 31 – 41].

3. **Claim 7** is rejected under 35 U.S.C. § 103(a) as being unpatentable over Zerillo in view of Breton et al., as applied to claim 6 above, in further view of Arimatsu et al. {US 5,312,654}.

10 Zerillo in view of Breton et al. teach all the limitations of this claim, as described above, except: that the metallic surface of the lithographic receiver is a grained and anodized aluminum.

At c. 3, ll. 31 – 41, Zerillo teaches that any hydrophilic receiver may be used, with an Al receiver being particularly favored for its durability. Arimatsu et al. teach that, when manufacturing a lithographic printing plate by an ink jet process similar to that of Zerillo, and
15 when the lithographic receiver is an aluminum plate, that “it is preferable to subject the plate to a graining treatment...followed by an anodizing treatment” [c. 6, ll. 7 – 14].

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the process of Zerillo in view of Breton et al., so as to grain and anodize the aluminum lithographic support. One of ordinary skill in the art would have been motivated to do
20 so by both the teaching of Zerillo that any hydrophilic support may be used (especially Al) and the explicit teaching of Arimatsu et al. that doing so is preferable.

4. **Claims 8 – 10** are rejected under 35 U.S.C. § 103(a) as being unpatentable over Zerillo in view of Breton et al., as applied to claim 1 above, in further view of Toyama et al. {US 4,686,138}.

5 Zerillo in view of Breton et al. teach all the limitations of these claims except: with respect to claim 8, that the lithographic receiver comprises a support and a cross-linked hydrophilic layer; with respect to claim 9, that the hydrophilic layer comprises an inorganic pigment; and, with respect to claim 9, that the inorganic pigment is chosen from an oxide or hydroxide of beryllium (Be), magnesium (Mg), aluminum (Al), silicon (Si), gadolinium (Gd),
10 arsenic (As), indium (In), tin (Sn), antimony (Sb), tellurium (Te), lead (Pb), bismuth (Bi), titanium (Ti), or a transition metal.

At c. 3, ll. 31 – 41, Zerillo teaches that any hydrophilic receiver may be used, including paper plates known in the art. Toyama et al. teach a lithographic receiver comprising a support (which may be paper) and a cross-linked hydrophilic layer [c. 3, ll. 10 – 35 and c. 4, l. 65 – c. 5, l. 5]. The cross-linked hydrophilic layer further contains an inorganic pigment with particularly
15 preferred examples being oxides of silicon (Si) [c. 3, ll. 36 – 43]. Toyama et al teach that their receiver possesses good hydrophilicity and fixes printing inks well [c. 2, ll. 8 – 12].

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the process of Zerillo in view of Breton et al. so as to utilize, as the
20 lithographic receiver, the receiver of Toyama et al. One of ordinary skill in the art would have been motivated to do so by the teaching of Zerillo that any hydrophilic support may be used

(including paper) and the teaching of Toyama et al. that their support gives improved hydrophilicity and fixing of printing inks.

VI. Allowable Subject Matter

5

Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art neither teaches nor reasonably suggests the method recited in claim 1 in which the oleophilizing agent is selected from the group consisting of the formulae recited in claim 11.

VII. Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the
5 examiner should be directed to William P. Fletcher III whose telephone number is (703) 308-7956. The examiner can normally be reached on Monday through Friday, 9 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P. Beck can be reached on (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular
10 communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

William Phillip Fletcher III
Patent Examiner
United States Patent & Trademark Office
Group Art Unit 1762

15 *wpf*
February 19, 2003


SHRIVE P. BECK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700